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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/883,817
Filing Date: June 18, 2001
Appellant(s): BARRENSCHEEN ET AL.

Laurence A. Greenberg
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 6/15/2006 appealing from the Office action mailed 5/09/2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,347,097	DENG	12-1998
6,212,633	LEVY	6-1998

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. Claims 1-5, 8-28, 31-46, and 93-94 are rejected under 35 U.S.C. 102(e) as being anticipated by Deng (US 6347097).

Regarding claims 1 and 24, Deng discloses transmitting in units data from a first device to one or more second devices together with information (e.g., col. 6, lines 34-40); forming units at least partly with at least one region defining a given time slot within which the devices transmitting no data can output data representing specific information (e.g., col. 6, lines 29-32; Figure 4, "subaction gap"), defining in the enabled devices, settings selected from the group consisting of a setting to determine under which conditions data are to be output within the given time slot, a setting which data representing information are to be output within the given time slot and a setting at which points in time within the time slot the data are to be output (e.g., col. 4, lines 47-52, "generation of a 'cycle' signal"; col. 4, lines 55-57, "one node at a time").

Regarding claims 2 and 25, Deng also discloses determining settings before transmission (e.g., col. 4, lines 47-52).

Regarding claims 3 and 26, Deng also discloses with one or more devices connected to the bus (e.g., col. 3, lines 56-57).

Regarding claims 4 and 27, Deng also discloses determining settings based on one of data and instructions transmitted (e.g., col. 4, lines 47-52).

Regarding claims 5 and 28, Deng also discloses determining settings upon initializing the devices (e.g., col. 4, lines 47-52).

Regarding claims 8 and 31, Deng also discloses frames (e.g., Figure 6).

Regarding claims 9 and 32, Deng also discloses messages (e.g., Figure 5, "acknowledge").

Regarding claims 10 and 33, Deng also discloses serial transmission at a clock rate (e.g., col. 1, lines 39-40).

Regarding claims 11 and 34, Deng also discloses determining with the data and information contained in the units containing the data to be transmitted together with the information whether certain devices output information onto the bus at which points in time (e.g., col. 4, lines 47-52, "generation of a 'cycle' signal"; col. 4, lines 55-57, "one node at a time").

Regarding claims 12 and 35, Deng also discloses determining with the data and information contained in units output (e.g., col. 6, lines 29-32).

Regarding claims 13 and 36, Deng also discloses defining the given time slot for transmission of one or more bits (e.g., col. 6, lines 34-40).

Regarding claims 14 and 37, Deng also discloses a positive acknowledge bit (e.g., col. 7, lines 51-54).

Regarding claims 15 and 38, Deng also discloses acknowledging fault free reception by outputting a positive acknowledgement bit onto the bus (e.g., col. 7, lines 51-54).

Regarding claims 16 and 39, Deng also discloses having to acknowledge fault free reception by outputting a positive acknowledge bit, the plurality set such that the positive acknowledge bits are output by the plurality of devices at different points in time if appropriate (e.g., Figure 4, "ACK").

Regarding claims 17 and 40, Deng also discloses devices for which the data is not intended do not output any data onto the bus at least at the points in time at which the devices for which the data transmitted via the bus is intended must be able to acknowledge the fault-free reception of data (e.g., Figure 4, "ACK GAP"; col. 4, lines 55-57).

Regarding claims 18 and 41, Deng also discloses a negative acknowledge bit (e.g., col. 7, lines 51-54).

Regarding claims 19 and 42, Deng also discloses exclusively devices for which the data transmitted via the bus is intended to signal non-fault free reception of the data (e.g., col. 7, lines 51-54).

Regarding claims 20 and 43, Deng also discloses they have to signal the non-fault free reception of the data by outputting a negative acknowledge bit at least some of the plurality of the devices are set such that they output at the same time the negative

acknowledge bits that are to be output if appropriate (e.g., col. 6, lines 45-52, "ack-gap").

Regarding claims 21 and 44, Deng also discloses devices for which the data transmitted is not intended do not output any data (e.g., col. 6, lines 49-52).

Regarding claims 22 and 45, Deng also discloses devices output positive acknowledge bits at different points in time or negative acknowledge bits at other different points in time (e.g., col. 7, lines 51-54).

Regarding claims 23 and 46, Deng also discloses devices set such that a content of the current frame or of a specific preceding frame or the content of the current message determines which of the devices has to output which information onto the bus at which point in time (e.g., col. 6, lines 3-12).

Regarding claims 93 and 94, Deng also discloses transmitting data and information concerning at least one of transmission and use of data from one device to others (e.g., col. 6, lines 34-40), forming units at least partly with at least one region defining a given time slot (e.g., col. 6, lines 29-32; Figure 4, "subaction gap"), defining variable settings selected from the group consisting of a setting to determine under which conditions data are to be output within the given time slot, a setting which data representing information are to be output within the given time slot and a setting at which points in time within the time slot the data are to be output (e.g., col. 4, lines 47-52, "generation of a 'cycle' signal"; col. 4, lines 55-57, "one node at a time").

Claim Rejections - 35 USC § 103

2. *Claims 7 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deng as applied in respective parent claims, in view of Levy (US 6212633).*

Deng does not expressly mention the implementational detail of a non-volatile memory device; however these devices are widely known and appreciated in the field for storing information, as exemplified by Levy. Levy discloses storing the settings relating to the given time slot in non-volatile memory devices (e.g., col. 18, line 65 – col. 19, line 13).

It would be obvious to combine Levy with Deng, because Levy teaches a particular use of non-volatile memory in the improvement of storing settings for transmitting data in a 1394 serial bus implementation, such as that taught by Deng. Therefore it would be obvious to one of ordinary skill in the art to combine Levy with Deng at the time the invention was made.

(10) Response to Argument

Regarding claim 1, Appellant argues that Deng does not disclose "transmission of such 'units' or frames having a period defined by the frame sent by a first device within which second devices to which the data does not concern and third devices to which the data does concern" and that receivers "intended to receive" and "not intended to receive" output information "during a period of the frame sent by the sender" (p. 12, emphasis original).

However, nowhere in the claims are "frames" recited. Specifically, claim 1 recites, "forming the units at least partly with at least one region defining a given time slot within which the second and third devices can output onto the bus specific information and/or data" (claim 1).

To distinguish from claim 1, Appellant argues that Deng's "ack-gap" is a field in which "only a uniquely addressed destination returns a code" (p. 13).

This interpretation is correct; however, as cited above and in previous Office Actions, the Examiner relies on Deng's "subaction gap" to anticipate the claims, not on the "ack-gap".

Appellant further argues that Deng's data packet "do[es] not include the subaction gap" (p. 14) and supports this by quoting from Deng "[e]ach of these asynchronous subactions is separated by periods of idle bus called 'subaction gaps'" (p. 14, quoting Deng at col. 6, lines 43-52, emphasis added by Appellant).

First to clarify, the passage quoted from Deng in fact refers to the "ack-gap". Following the text quoted by the Appellant: "This gap is disposed between the packet transmission and acknowledgement reception. This 'ack-gap' is of varying lengths depending upon where the receiver is on the bus" (col. 6, lines 45-49). To repeat, the Examiner relies on Deng's subaction gap to anticipate the claims; this has been made clear in previous Office Actions and supra.

It is the Examiner's determination that the subaction gap is a region of the units formed. Although Appellant attempts to distinguish these regions as "periods of idle bus" as Deng refers to them, Examiner determines that they are necessarily periods of

idle time since this region is formed specifically to allow other devices other than the first (transmitting) device to themselves transmit.

Appellant further relies on the placement of brackets used in rendering a Figure: "Note in Fig. 4 of DENG the brackets delimiting subaction 1 from subaction 2, do not include the subaction gap" (p. 14); however Examiner contends that the bracket delimits a "request" subaction that is one of the regions, while at least the "subaction gap" and perhaps the "response" subaction are other regions of the unit formed (the Examiner relies only on subaction 1 and the subaction gap regions). There is no support in the claims that would distinguish from this interpretation for the recited formed "units".

Appellant further argues that "[t]he above portion of DENG sets out, both, that the subaction gaps are not part of the data packet transmissions, nor defined as part of the frame/'unit', as required by Appellants' claim 1, and that the 'ack-gap' of the subaction is set sufficiently short so that other devices do not use it to begin arbitration" (pp. 14-15, emphasis original). As noted supra, the Examiner does not rely on the "ack-gap"portion of DENG but rather the longer sub-action gap. Appellant apparently accepts the ack-gap as part of the units formed, but then incorrectly identifies them as a relied upon feature. Examiner maintains that both the ack-gap and the sub-action gap are regions that are formed in the recited units. The subaction of requesting (Deng, Fig. 4, "Subaction 1"), the subaction gap (Fig. 4, "subaction gap") where second and third devices can respond and the subaction of responding (Fig. 4, "Subaction 2") form a complete "action". The purpose of forming the subaction gap region is to allow third devices to output data before the second device responds. In this particular Figure,

Deng shows the second device responding; however this occurs only after it has successfully arbitrated for the bus (Fig. 4 "Subaction 2: Response: ARB"). The function of arbitration is precisely to allow other devices to contend for use of the bus. Figure 4 merely shows the occasion of the responding device winning the arbitration, but by no means precludes the alternative. This arbitration occurs between devices, both second and third devices, and is the function of the subaction gap. Note from Figure 4 that the ack-gap uses no such arbitration because it is formed with a shorter length.

Appellant further argues that "it can be seen that the subaction gap and subsequent arbitration period, located between the request and the response, are present solely for a response to come from the link responder, i.e., a device to which the packet was intended" (p. 17); however, as noted supra the arbitration phase of subaction 2 belies this, and is distinguished from the ack-gap which requires no arbitration phase as seen in Figure 4. This is also consistent with the IEEE 1394 standard, which does not require arbitration for the acknowledge message (following the ack-gap), but requires arbitration for the response message.

Appellant further argues that "the device for which the information is intended is the only device that responds during the subaction gap and subsequent arbitration period"; however such a strained interpretation assumes Figure 4 represents the only possible use of the regions and contradicts the definition of an arbitration period; specifically, if the "device for which the information is intended is the only device that responds", then the arbitration period is non-functional, and further, inconsistent with the IEEE 1394 standard employed by Deng's particular embodiment.

Regarding claims 24, 93 and 94, Appellant argues that Deng does not disclose "'units' sent by a first device including predefined time periods in the unit/frame during which both devices for which the message concerns / is intended and devices for which the message does not concern / is not intended output information" (pp. 20-21); however, as treated supra, Deng teaches these time periods ("subaction gaps"). Regarding claims 7 and 10, Appellant argues that LEVY additionally does not disclose "the above described elements" (p. 20); however, Deng is relied upon for these features as treated supra.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Clifford Knoll

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8/28/06